Coping With Poor Hay Crop Quality

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Introduction

Rain, rain go away... How can you make any hay? The cool wet conditions this spring are delaying hay crop harvest across the province. Delayed harvest and weathering damage will definitely reduce the nutrient and feeding value of your hay crop this year.

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Nutrient Changes in Alfalfa

What nutrient changes can you expect in alfalfa due to advancing maturity?

- Decreased intake - due to higher NDF, which increases about 0.9% per day.
- Decreased digestibility and energy value - due to higher ADF, which increases about 0.7% per day and a larger amount of lignin, which is indigestible.
- Decreased protein - decreases about 0.5% per day.
- Decreased calcium - due to maturity and heavier grass content.

To go from ideal alfalfa of 20% CP, 30% ADF, and 40% NDF, to 17 - 34 - 45, takes only 5 or 6 days! Obviously, poor quality forage does not have the same milk producing potential. Changes in rations, feeding and management are essential to cope with quality differences.

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What Happens When Cut Hay Gets Rained On?

- Increased leaf loss due to physical damage. Leaves are high in protein and low in fibre.
- Increased breakdown of protein to NPN. The rate of breakdown is very rapid in the presence of sufficient moisture until moisture content drops below 60%.

- Decreased soluble carbohydrates (results in slow and poor fermentation)
- Decreased water soluble minerals
- Decreased yield of dry matter by up to 30 to 50%
- Increased fibre levels

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Tips on Making the Best of a Bad Situation

You can't change the weather, but here are some tips to help you make the best out of a bad situation.

1. Test all forages when they enter storage, and retest at feed-out. Balance rations more frequently. Make sure new rations are in place before the feed is fed and make alterations when ensiled feed analysis results are available.
2. Test forages for ligning to get a better handle on available energy. Test all hays and fermented silages for heat damage (ADF-N). Recheck soluble protein on ensiled feeds.
3. If forage inventory is good, consider chopping poor quality forage back onto the field. Do you really need all of it? One of the benefits of increased maturity is increased dry matter yield, so be choosy about what you put in the silo or mow. For anything that goes into storage, inventory these forages by quality (mark silos, mows etc.). Post signs so all employees know what is stored where. Inventory the forages to allow year-round access to each quality type. Keep highest quality forages for high producing-early lactation cows or seasons of the year when a lot of cows are fresh.
4. Make haylage, instead of hay to shorten dry down time. No silo? Consider silage bag storage, wrapped bales, packed and covered piles etc. Ensile quickly and cover immediately.
5. Save those leaves! Leaves are higher in protein and more digestible than stems. Minimize raking, inverting or tedding. Avoid handling the hay crop when moisture content is under 40%.
6. Ensile wetter than you normally would to avoid leaf loss and reduce drying time. Don't store too wet, or you will lose valuable nutrients in the seepage. Contain any seepage - it has a BOD (biological oxygen demand) of 150 to 200 times that of raw sewage!
7. Avoid mow fires. Ensure hay is dry enough to bale! Use your hay drier, and then move dried hay to an alternate location so the drier is available for later cuttings.
8. Use an inoculant from a reputable company to increase dry matter recovery from the silo. Some products have proven claims of increased digestibility and/or cow performance and most will improve bunk stability at feed-out.
9. If feeding hay, feed 15 to 25% more than you normally would, and allow cows to sort through it and pick out the best parts.
10. Chop hay crop silage finer than normal, especially in herds where a lot of mature baled hay will be fed. Finer chopping increases intake and digestibility. Don't chop too finely or you will reduce the cud chewing potential of the ration.
11. Reduce the amount of hay crop in your ration by feeding more corn silage or adding high fibre ingredients such as ear corn, soy hulls, whole cottonseed, brewers grains or beet pulp.
12. Consider a cheap source of fat, such as tallow, or the oil in whole soybeans, to increase the diet energy density.
13. Plan to purchase more protein. Choose low cost commodities, soybean meal, canola meal or raw soybeans. Urea can be added into the grain mix or TMR, but don't feed urea with raw soybeans. These feeds do not normally match well with high quality alfalfa, but when quality is poor they provide cheap and digestible protein and have good palatability.
14. Plan to ammoniate your corn silage to increase the supply of readily available protein. Mature hay crop that has been rained-on is low in soluble and degradable protein.
15. Adjust the type or amount of mineral fed to account for lower calcium levels in mature forages.

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16. My cropping colleagues tell me it is not too late to plant small grains for silage. You might also consider sorghum-sudan or pearl millet (use on lighter soils) if forage quantity will be a problem and you have some unplanted acreage.
17. Beware of mould and mycotoxin formation. If in doubt, leave it out! Keep mouldy feeds out of the TMR, as they will contaminate the entire mix and increase the rate of spoilage in the bunk, especially in warm weather.
18. Consider making 2 TMR groups this season. Use poorer forages in lower production TMR.
19. Feed yeast or yeast culture, to increase the number of cellulose-digesting bacteria in the rumen.
20. It is important to get that first cut off somehow. Regrowth is becoming a critical issue for a 3 cut system.
21. With good luck, sunny days will soon be here again!

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For more information... regarding coping with poor hay quality, please contact Beth Wheeler at bwheeler@omafra.gov.on.ca

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